

### **REMARKS**

The Office Action dated August 12, 2004 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-13 are respectfully submitted for reconsideration.

#### **I. CLAIM REJECTIONS UNDER 35 U.S.C §103**

Claims 1-5 and 8-13 are rejected under 35 U.S.C. §103(a) as being obvious over International Application No. WO 96/18273 to Doe et al. (Doe) in view of U.S. Patent No. 6,044,259 to Hentilä et al. (Hentilä). This rejection is respectfully traversed.

Applicant respectfully submits that this rejection is improper because Hentilä is not valid prior art against this application. Specifically, Hentilä is effective prior art as of May 9, 1997. However, the present application claims priority from Finnish application serial number 963722 filed on September 19, 1996. The priority document was acknowledged in the Office Action dated February 28, 2001. Hence, the rejection of these claims in light of the Hentilä reference is improper. Withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Applicant further submits that the applied references fail to disclose or suggest all of the features recited in claims 1-5, and 8-13. Claim 1, from which claims 2-5, 12 and 13 depend recites a method for automatic location updating of a wireless terminal in a communication system comprising a number of private branch exchanges and at least one telephone exchange, the communication system being connected to a public integrated services network and an intelligent network. The method comprises the terminal sending, in connection with a call setup, an automatic location updating message to a private branch exchange and the private branch exchange sending a call set up message to the exchange. The method also comprises the private branch exchange automatically adding the location information and identity of the terminal to the

call set up message. Further, the method includes the step of the telephone exchange automatically sending to a node of the intelligent network a service request, a service including the location information and the identity of the terminal. Further, the method comprises a step of the node and the intelligent network automatically adding the location information of the terminal to the subscriber number.

Claim 8, from which claim 9 depends recites a private branch exchange. The private branch exchange comprising a first interface means for interfacing to an exchange having a Service Switching Post for interfacing to a service control point of that intelligent network. The private branch exchange further comprises a second interface means for interfacing to base stations of a telephone system supporting wireless terminals, each terminal having an associated identity. The private branch exchange requires that the private branch exchange is configured to in response to a location updating of one of the terminals, automatically assign location information for said one of the terminals and to automatically send said location information to said exchange in a message which is suitably formatted so that said Service Switching Point re-sends said location information to said service control point.

Claim 10, from which claim 11 depends recites an arrangement for location updating of a wireless terminal in a communication system, comprising a number of private branch exchanges and being in connection with a Public Integrated Services network and an intelligent network. The arrangement requires that the wireless terminal comprises means for sending a location updating message in connection automatically with a call set up to a private branch exchange and the private branch exchange comprises means for sending a call set up message automatically to an exchange. The arrangement further comprised at the private branch exchange comprises means for automatically allocating location information to the terminal of the wireless network.

The arrangement further requires that the private branch exchange comprises means for automatically adding the location information and the identity of the terminal to the call setup message. Further, the arrangement requires that the exchange comprises means for automatically sending the location information and the identity of the terminal to a node of the intelligent network in connection with a service request. The arrangement further comprises that the node of the intelligent network comprises means for automatically adding the location information and the identity of the terminal to the subscriber number.

As discussed in the present specification and the previous responses, the present invention enables automatic location updating of the wireless terminal in a communication system.

The first step of claim 1 recites the feature of the terminal sending in connection with a call set up, an automatic location updating message to a private branch exchange and the private branch exchange sending a call set up message to the exchange.

Regarding this step, the Office Action asserts that Doe discloses the feature of the terminal 19 sending location sending update message with a call setup to a private branch exchange PBX/VLE 15 (page 9, lines 9-21) and VLE/15 sends call set up message to EXC/HLE 17 (page 9, lines 22-31).

It is respectfully submitted that Doe fails to disclose or suggest this feature. Specifically, Doe merely discloses sending a notification of a terminal's presence to the visited local exchange (VLE) 15 and the VLE then notifies the home database (HDB) 13 about the new location and requests the previous visited local exchange or, amends the home local exchange to de-register the mobile terminal 19. (See Doe page 9, lines 22-33). Thus, it is clearly shown that Doe discloses sending information to a database and not to an exchange as recited in claim 1 and

similarly recited in claims 8 and 10. It is well known that a home database is not analogous to a telephone exchange.

In addition, Doe did not disclose sending location updating in connection with a call setup, as recited in claim 1 and similarly recited in claims 8 and 10. Instead, Doe merely teaches that the home local exchange (HLE) 17 requests the call to subscriber's location from the HDB as discussed below.

The location updating procedure described in Doe beginning on page 9, line 9 is as follows. Once a terminal runs into a new location, i.e. an area serviced by the VLE 15, the terminal sends a notification of its presence to the VLE. Doe continues to state that at this time the VLE 15 optionally performs a terminal authentication procedure. The VLE 15 will then notify the HDB 13 about the new location.

This is in contrast to the update information being sent to the exchange as recited in claim 1 and similarly recited in claims 8 and 10. In addition, sending location updating in connection with a call setup is not even mentioned in Doe.

The next feature (second step of claim 1) similarly recited in claims 8 and 10, recites the step of the private branch exchange automatically adding the location information and the identity of the terminal to the call setup message.

The Office Action asserts that the PBX/VLE 15 adds the location information and the identity of the terminal to the call setup message. The Office Action cites page 9, lines 25-30. It is respectfully submitted that the disclosure of Doe does not disclose the step of adding the location information and the identity of the terminal to the call setup message, because, as cited in the previous step, the message is sent from the private branch exchange to the telephone exchange. The passages cited in Doe by the Office Action merely discuss a separate registration

procedure and is silent regarding any call setup message, let alone the specific acts recited in the second step of claim 1 and similarly recited in claims 8 and 10.

The next feature (third step of claim 1) similarly recited in claims 8 and 10, recites the step; the telephone exchange automatically sends a node of the intelligent network a service request, the service request including the location information and the identity of the terminal.

Applicant notes that in the third Office Action dated February 22, 2002, it was indicated that only steps 1 and 2 (and the element cited in the preamble) of claim 1 are disclosed by Doe. It was acknowledged in that Office Action that Doe did not disclose steps 3 or 4 i.e. that the exchange sends a service request including the location information and the identity of the terminal or adding the location information to the subscriber number. However, it was then alleged that U.S. Patent No. 6,044,262 to Huotari disclosed the steps.

In the present Office Action, the Office Action asserts that Doe discloses that the exchange EXC/HLE 17 sends a SCP (page 6, lines 1-10, page 8, lines 34-35, and page 9, lines 1-9) of the intelligent network, a service request (page 10, lines 33-35, page 11, lines 1-5), including the location information (page 12, lines 1-6) and the identity of [the] terminal (see figure 1, page 10, lines 25-27, page 11, lines 33-35).

The applicants note the following regarding the cited passages in the Office Action.

Page 6, lines 1-10 of Doe merely recites the definition of a service control point;

Page 8, line 34 – page 9, line 9 merely defines INAP connections;

Page 10, line 33 – page 11, line 5 merely describes the final phases of call establishment to the terminal;

Page 12, lines 1-6, merely describes the flow chart of Figure 7A and explicitly states that the HDB 13 tracks the locations of the terminal. Figure 7A and this description are silent regarding the SCP.

Figure 1 merely shows an SCP with INAP connections;

Page 10, lines 25-27 merely recites that the VLE 15 returns a routing number to HLE 17;

Page 11, lines 33 – 35 merely state that the identity of the terminal may be authenticated.

It is respectfully submitted that the above mentioned passages do not recite the third step as alleged in the Office Action.

In fact, Doe describes sending a service request, in an entirely different manner than the one recited in the third step of claim 1. On page 11, line 5-12, Doe describes that the mobile terminal 19 access the network by sending a service request to the appropriate VLE via the air interface.

In contrast, claim 1 clearly requires that the exchange automatically sends a service request.

In addition, in light of the above, Doe discloses specific ways of requesting service an incoming call, (page 10, line 9 – page 11, line 4) and an outgoing call (page 11, line 5-27). However, these descriptions are void of any discussion regarding the specific acts of the third step.

The Office Action admits that Doe does not disclose all of the third step. The Office Action states, on page 4, line 2, that Doe does not mention the exchange automatically updating the location information and the identity of the terminal to the SCP and the SCP automatically adding the location information of the terminal to the subscriber number. The Office Action alleges that Hentilä makes up for this deficiency.

Applicant respectfully submits that Hentilä is not valid prior art against this application.

Hentilä discloses a system for subscriber administration in a telecommunication network. On column 5, lines 50-63, Hentilä discloses what happens when the subscriber inputs a phone number 800 + ABCD (ABCD is a number sequence). Upon detecting the prefix 800

the call control function of the exchange identifies the call as an IN call and request for the IN service via an SSP. The exchange sends the SCP an inquiry containing the number 800 + ABCD. The SCP checks the SDP file to see what number of a conventional telephone network corresponds to the number 800 plus ABCD. Claim 1, and similarly claims 8 and 10, clearly recite that the exchange informs the SCP. In contrast, the cited passage of Hentilä discloses that the exchange sends an inquiry to the SCP. It is respectfully submitted that an inquiry is not analogous to the exchange automatically adding the location information and the identity of the terminal to the SCP, as alleged in the Office Action.

The next feature (fourth step of claim 1), similarly recited in claim 10 recites the step of the node of the intelligent network automatically adds the location information of the terminal to the subscriber number. The Office Action admits that Doe does not disclose this feature and alleges that Hentilä makes up for this deficiency. Hentilä, at column 6, lines 46-66 recites when a visiting mobile subscriber updates location data in the network, SSP identifies the subscriber by the MSISDN number as a visitor and forwards the number to SCP, which immediately creates a separate record for the visitor number and sets the fields containing the desired information therein. After this, all calls of the visiting GSM subscriber are controlled by SCP.

However, Hentilä fails to even mention that the SCP adds location information of the terminal to the subscriber number as recited in claim 1 and similarly claimed in claims 8 and 10.

It is respectfully submitted that the applied references fail to disclose or suggest all of the features recited in claims 1, 8 and 10.

It is respectfully submitted that since claims 2-3, 9 and 11-13 depend from independent claims 1, 8 and 10, respectively, that these claims are allowable, at least for the same reasons discussed above for the independent claims.

Accordingly, withdrawal of this rejection is respectfully requested.

The Office Action rejects claims 6 and 7 under 37 U.S.C. §103(a) as unpatentable over Doe, in view of Hentilä and further in view of U.S. Patent No. 6,864,755 to King et al. (King). This rejection is respectfully traversed.

Regarding claims 6 and 7 it is respectfully submitted that Doe and Hentilä are deficient at least for the reasons stated above regarding claim 1, and King fails to make up for these deficiencies.

King recites a method for allowing a mobile phone to receive a call through a wireless network for which it is not registered for emergency purposes. Thus, applicant respectfully submits that King fails to cure the deficiencies of Doe and Hentilä as discussed above and applicant respectfully asserts that the rejection of claims 6 and 7 should be withdrawn at least for their dependence on claim 1.

## **II. CONCLUSION**

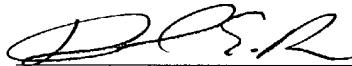
It is further submitted that each of claims 1-13 recite subject matter which is neither disclosed nor suggested in the cited prior art. It is therefore, respectfully requested that all of claims 1-13 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.



In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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